

What is claimed is :

1. A multilayered air-fuel ratio sensor comprising:
a plurality of substrate layers comprising at least one solid electrolytic
substrate layer; and
at least one heterogeneous boundary layer interposed between said
plurality of substrate layers, said heterogeneous boundary layer having a
thickness in a range of 10 to 100 μm .

2. The multilayered air-fuel ratio sensor in accordance with claim 1,
wherein said heterogeneous boundary layer has a porous rate larger than those
of neighboring substrate layers.

3. The multilayered air-fuel ratio sensor in accordance with claim 1,
wherein said heterogeneous boundary layer has a sintering particle diameter
larger than those of neighboring substrate layers.

4. The multilayered air-fuel ratio sensor in accordance with claim 1,
wherein said heterogeneous boundary layer comprises a component selected
from the group consisting of alumina, spinel, and steatite.

5. The multilayered air-fuel ratio sensor in accordance with claim 1,
wherein said heterogeneous boundary layer is interposed between a solid
electrolytic substrate and an insulating substrate.

MgO, alumina, spinel, steatite, MgO-SiO₂